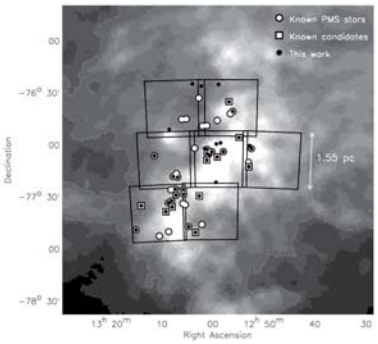
Astronomy & Astrophysics

HIGHLIGHTS: this week in A&A

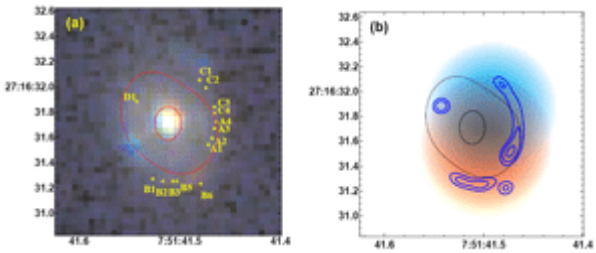
Volume 470-1 (July IV 2007)



WFI optical survey in the Chamaeleon II dark cloud

"A WFI survey in the Chamaeleon II dark cloud" by L. Spezzi, J.M. Alcalà, A. Frasca, E. Covino, D. Gandolfi,
A&A 470, p. 281

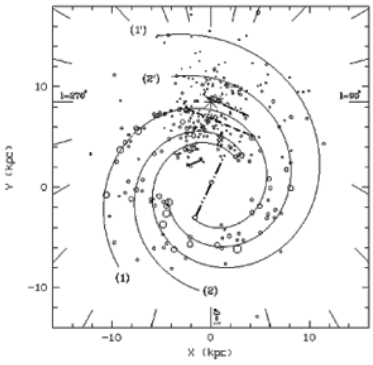
The authors use a very interesting approach to determining the physical properties of their sample of new candidate members of the Chamaeleon II star-forming region.



Observations of the lensed quasar MG0751+2716 at z=3.2

"Dust and molecular content of the lensed quasar MG0751+2716 at z=3.2" by D. Alloin et al., A&A 470, p. 53

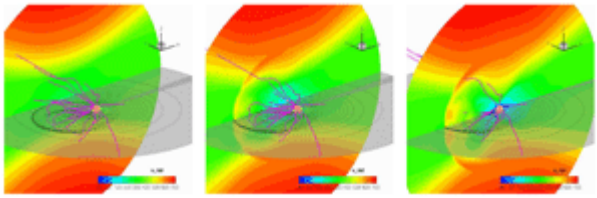
This paper presents observations of the lensed quasar MG0751+2716 at z=3.2. The strong gravitational lense leads to an amplification factor of about 20 and makes the detection of the quasar possible. The authors detected an almost edge-on molecular gas disk, surrounding it. The lens also enlarges the image, allowing the disk to be resolved with observations from the IRAM interferometer. This high-z detection confirms that AGN are frequently associated with starbursts.



Distances to the outer Galaxy HII regions

"Revised distances of Northern HII regions" by D. Russeil, C. Adami, Y.M. Georgelin,
A&A 470, p. 161

This paper updates our knowledge of the distances to outer Galaxy HII regions based on distances to the presumed exciting star. It is important for our understanding of the structure of the outer Milky Way and of departures from circular rotation.



2D and 3D models of CME propagation

"Comparison between 2.5D and 3D simulations of coronal mass ejections" by C. Jacobs, B. van der Holst, S. Poedts, A&A 470, p. 359

During a coronal mass ejection (CME), material from the corona of the Sun is injected into interplanetary space, which might eventually hit the Earth's magnetosphere, leading to geomagnetic disturbances or even disruptions of satellite communication. Even though the overall scenario is agreed upon, there are many interesting open questions about the eruption and propagation of the mass ejection.
This paper describes in detail the propagation of the mass ejection in two- and three-dimensional magneto-hydrodynamic models close to the Sun through the background of the ubiquitous solar wind. In comparing the 2D and 3D models, the authors find that the 2D model is a good first approach when using an appropriate set of initiation parameters. This method is a good approachs because of the computational time saved.